# Complete Summary

## TITLE

Perioperative care: percentage of patients undergoing procedures for which VTE prophylaxis is indicated in all patients who had an order for low-molecular weight heparin (LMWH), low-dose unfractionated heparin (LDUH), adjusted-dose warfarin, fondaparinux or mechanical prophylaxis to be given within 24 hours prior to incision time or 24 hours after surgery end time.

## SOURCE(S)

American College of Surgeons, Physician Consortium for Performance Improvement®, National Committee for Quality Assurance. Perioperative care physician performance measurement set. Chicago (IL): American Medical Association, National Committee for Quality Assurance; 2006 Oct. 11 p. [8 references]

# Measure Domain

## PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the Measure Validity page.

## SECONDARY MEASURE DOMAIN

Does not apply to this measure

# Brief Abstract

## DESCRIPTION

This measure is used to assess the percentage of patients undergoing procedures for which venous thromboembolism (VTE) prophylaxis is indicated in all patients who had an order for low-molecular weight heparin (LMWH), low-dose unfractionated heparin (LDUH), adjusted-dose warfarin, fondaparinux or mechanical prophylaxis within 24 hours prior to incision time or within 24 hours after surgery end time.

## RATIONALE

This measure addresses venous thromboembolism (VTE) risk based on surgical procedure. VTE prophylaxis is appropriate for all patients undergoing these procedures regardless of individual *patient* thromboembolic risk factors.*

*The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure:

Recommend that mechanical methods of prophylaxis be used primarily in patients who are at high risk of bleeding or as an adjunct to anticoagulant-based prophylaxis.

Recommend against the use of aspirin alone as prophylaxis against VTE for any patient group.

Recommend consideration of renal impairment when deciding on doses of low-molecular weight heparin (LMWH), fondaparinux, the direct thrombin inhibitors, and other antithrombotic drugs that are cleared by the kidneys, particularly in elderly patients and those who are at high risk for bleeding.

Moderate-risk general surgery patients are those patients undergoing a nonmajor procedure and are between the ages of 40 and 60 years or have additional risk factors, or those patients who are undergoing major operations and are less than 40 years of age with no additional risk factors. Recommend prophylaxis with low-dose unfractionated heparin (LDUH), 5,000 U bid or LMWH less than or equal to 3,400 U once daily.

Higher-risk general surgery patients are those undergoing nonmajor surgery and are greater than 60 years of age or have additional risk factors, or patients undergoing major surgery who are greater than 40 years of age or have additional risk factors. Recommend thromboprophylaxis with LDUH, 5,000 U tid or LMWH, greater than 3,400 U daily.

Recommend that thromboprophylaxis be used in all major gynecologic surgery patients.

For patients undergoing major, open urologic procedures, recommend routine prophylaxis with LDUH twice daily or three times daily.

Patients undergoing major orthopedic surgery, which includes hip and knee arthroplasty and hip fracture repair, represent a group that is at particularly high risk for VTE, and routine thromboprophylaxis has been the standard of care for greater than 15 years. Elective total hip replacement: routine use of LMWH, fondaparinux, or adjusted-dose VKA. Elective total knee arthroplasty: routine thromboprophylaxis using LMWH, fondaparinux, or adjusted-dose VKA. Hip fracture surgery: routine use of fondaparinux, LMWH, adjusted-dose VKA, or LDUH.

For major orthopedic surgical procedures, recommend that a decision about the timing of the initiation of pharmacologic prophylaxis be based on the efficacy-to-bleeding tradeoffs for that particular agent. For LMWH, there are only small differences between starting preoperatively or postoperatively, both options acceptable.

Recommend that thromboprophylaxis be routinely used in patients undergoing major neurosurgery. (American College of Chest Physicians [ACCP])

## PRIMARY CLINICAL COMPONENT

Perioperative care; timing of venous thromboembolism (VTE) prophylaxis; low molecular weight heparin (LMWH); low-dose unfractionated heparin (LDUH); adjusted-dose warfarin; fondaparinux; mechanical prophylaxis

## DENOMINATOR DESCRIPTION

All surgical patients aged 18 years and older undergoing procedures for which venous thromboembolism (VTE) prophylaxis is indicated in all patients (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

### NUMERATOR DESCRIPTION

Surgical patients who had an order for low molecular weight heparin (LMWH), low-dose unfractionated heparin (LDUH), adjusted-dose warfarin, fondaparinux or mechanical prophylaxis to be given within 24 hours prior to incision time or within 24 hours after surgery end time (see the related "Numerator Inclusions/Exclusions" field in the Complete Summary)

## Evidence Supporting the Measure

### EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

### NATIONAL GUIDELINE CLEARINGHOUSE LINK

- Prevention of venous thromboembolism: the Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy.

## Evidence Supporting Need for the Measure

### NEED FOR THE MEASURE

Use of this measure to improve performance
Variation in quality for the performance measured

### EVIDENCE SUPPORTING NEED FOR THE MEASURE

Data from Centers for Medicare & Medicaid Services, Medicare safety monitoring system, 2002-2003. In: Agency for Healthcare Research and Quality (AHRQ). 2005 National Healthcare Quality Report. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2005 Dec.

Goldhaber SZ, Tapson VF, DVT FREE Steering Committee. A prospective registry of 5,451 patients with ultrasound-confirmed deep vein thrombosis. Am J Cardiol2004 Jan 15;93(2):259-62. PubMed

Kakkar AK, Davidson BL, Haas SK, The Investigators Against Thromboembolism (INATE) Core Group. Compliance with recommended prophylaxis for venous thromboembolism: improving the use and rate of uptake of clinical practice guidelines. J Thromb Haemost2004 Feb;2(2):221-7. [34 references] PubMed

Leatherman S, McCarthy D. Quality of health care for medicare beneficiaries: a chartbook. Focusing on the elderly living in the community. Vol. 815New York (NY): Commonwealth Fund; 2005 May. 184 p.

Stratton MA, Anderson FA, Bussey HI, Caprini J, Comerota A, Haines ST, Hawkins DW, O'Connell MB, Smith RC, Stringer KA. Prevention of venous thromboembolism: adherence to the 1995 American College of Chest Physicians consensus guidelines for surgical patients. Arch Intern Med2000 Feb 14;160(3):334-40. PubMed

## State of Use of the Measure

### STATE OF USE

Current routine use

### CURRENT USE

Internal quality improvement
National reporting

## Application of Measure in its Current Use

### CARE SETTING

Hospitals

### PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

### LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Individual Clinicians

### TARGET POPULATION AGE

Age greater than or equal to 18 years

### TARGET POPULATION GENDER

Either male or female

### STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

## Characteristics of the Primary Clinical Component

### INCIDENCE/PREVALENCE

Unspecified

**ASSOCIATION WITH VULNERABLE POPULATIONS**

Unspecified

**BURDEN OF ILLNESS**

Unspecified

**UTILIZATION**

Unspecified

**COSTS**

Unspecified

## Institute of Medicine National Healthcare Quality Report Categories

**IOM CARE NEED**

Getting Better

**IOM DOMAIN**

Effectiveness
Timeliness

## Data Collection for the Measure

**CASE FINDING**

Users of care only

**DESCRIPTION OF CASE FINDING**

All surgical patients aged 18 years and older undergoing procedures for which venous thromboembolism (VTE) prophylaxis is indicated in all patients

**DENOMINATOR SAMPLING FRAME**

Patients associated with provider

**DENOMINATOR INCLUSIONS/EXCLUSIONS**

**Inclusions**
All surgical patients aged 18 years and older undergoing procedures for which venous thromboembolism (VTE) prophylaxis is indicated in all patients

**Exclusions**
Documentation of medical reason(s) for patient not receiving low-molecular weight heparin (LMWH), low-dose unfractionated heparin (LDUH), adjusted-dose warfarin, fondaparinux or mechanical prophylaxis within 24 hours prior to incision time or within 24 hours after surgery end time

## RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

## DENOMINATOR (INDEX) EVENT

Therapeutic Intervention

## DENOMINATOR TIME WINDOW

Time window is a single point in time

## NUMERATOR INCLUSIONS/EXCLUSIONS

**Inclusions**
Number of surgical patients from the denominator who had an order for low-molecular weight heparin (LMWH), low-dose unfractionated heparin (LDUH), adjusted-dose warfarin, fondaparinux or mechanical prophylaxis to be given within 24 hours prior to incision time or within 24 hours after surgery end time

**Note**: There must be documentation of order (written order, verbal order, or standing order/protocol) for venous thromboembolism (VTE) prophylaxis **OR** documentation that VTE prophylaxis was given.

**Exclusions**
None

## MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

## NUMERATOR TIME WINDOW

Fixed time period

## DATA SOURCE

Administrative data
Medical record

## LEVEL OF DETERMINATION OF QUALITY

Individual Case

**PRE-EXISTING INSTRUMENT USED**

Unspecified

## Computation of the Measure

**SCORING**

Rate

**INTERPRETATION OF SCORE**

Better quality is associated with a higher score

**ALLOWANCE FOR PATIENT FACTORS**

Unspecified

**STANDARD OF COMPARISON**

Internal time comparison

## Evaluation of Measure Properties

**EXTENT OF MEASURE TESTING**

Unspecified

## Identifying Information

**ORIGINAL TITLE**

Measure #6: venous thromboembolism (VTE) prophylaxis (when indicated in ALL patients).

**MEASURE COLLECTION**

The Physician Consortium for Performance Improvement® Measurement Sets

**MEASURE SET NAME**

Perioperative Care Physician Performance Measurement Set

**SUBMITTER**

American Medical Association on behalf of the American College of Surgeons, the National Committee for Quality Assurance, and the Physician Consortium for Performance Improvement®

## DEVELOPER

American College of Surgeons
National Committee for Quality Assurance
Physician Consortium for Performance Improvement®

## FUNDING SOURCE(S)

Unspecified

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## FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

Conflicts, if any, are disclosed in accordance with the Physician Consortium for Performance Improvement® conflict of interest policy.

## ENDORSER

National Quality Forum

## INCLUDED IN

Ambulatory Care Quality Alliance
Physician Quality Reporting Initiative

## ADAPTATION

Measure was not adapted from another source.

## RELEASE DATE

2006 Oct

## MEASURE STATUS

This is the current release of the measure.

## SOURCE(S)

American College of Surgeons, Physician Consortium for Performance Improvement®, National Committee for Quality Assurance. Perioperative care physician performance measurement set. Chicago (IL): American Medical Association, National Committee for Quality Assurance; 2006 Oct. 11 p. [8 references]

## MEASURE AVAILABILITY

The individual measure, "Measure #6: Venous Thromboembolism (VTE) Prophylaxis (When Indicated in ALL Patients)," is published in the "Perioperative Care Physician Performance Measurement Set." This document and technical specifications are available in Portable Document Format (PDF) from the American Medical Association (AMA)-convened Physician Consortium for Performance Improvement® Web site: www.physicianconsortium.org.

For further information, please contact AMA staff by e-mail at cqi@ama-assn.org.

## NQMC STATUS

This NQMC summary was completed by ECRI Institute on September 13, 2007. The information was verified by the measure developer on October 26, 2007.

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